

into this world in water, because the examination of a bird's egg on the fourth day of incubation, reveals what almost exactly resembles a tadpole, having no wings or legs, but gills and a tadpole like tail. The embryo of man has gills, cleft-palate and hare-lip, signifying what our very ancient ancestors were like, and where they lived.

Let us try to trace back the life-history of an insect. The one I particularly want to know is a Dipteron, as for instance the common house-fly. On the same lines presumably this was once like its larva, the "maggot," with the same nervous system, intestinal tract, and breathing apparatus, a very simple organism. This pupates, and this, by analogy, traces up the rest of its life-history, I understand (I want to know if correctly) that its epidermis is altered, so as to form the pupal case, and it is the contents of this which we must examine. I have spoken to several who ought to know, and they declare that the whole of the internal structure of the "maggot" is completely broken up, except the central nervous system. Out of this pupa there comes, I think I am right in stating, in less than a fortnight, a fully developed fly, with its very elaborate head, thorax, abdomen, wings and legs. Nothing whatever is known about how these are formed, and I believe no one has really seriously troubled to try to find out, because it would be a very difficult thing to do.

We can of course trace up the life-history of a chicken in the egg, but here we have a blank between the larva and the imago. Examination of the pupae of the Lepidoptera does not help us. Here we have no gradual growth of the wings, antennae and legs, as we have in the wings and legs of the chicken, but their sudden appearance, but not quite fully developed. Think of the complete change there is between the larva and imago of the Dipteron; what was the insect like in the world between these times? Why this apparent sudden jump from one to the other? It is a question which has probably been brought up at some time before the Entomological Society. It, at any rate, most certainly ought to have been. I have an idea myself to account for it, but I want the opinions of others.

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### On some forms of *Pieris brassicae*, L.

By T. J. LEMPKE, Amsterdam.

In 1929-1930 (*Entom. Record*, Vols. XLI. and XLII.) Messrs. G. S. and W. Graham-Smith published their excellent study of *Pieris brassicae*, L. As a number of forms, described by Rocci in 1919 (*Atti Soc. Lig.*, Vol. XXX., No. 1), are not cited by the authors and as these forms are neither to be found in the *Supplement of Seitz* nor in the *Novitates* of Bang-Haas, I think it very useful to give an account of Rocci's forms and to discuss the synonymy of one or two of them. As special spring forms Rocci described:

1. ab. *nigrovirescens*, Rocci, p. 16. "Specimens in which the underside of the hindwings is of a greenish colour, extraordinarily suffused with black scales, assuming an obscure green tint." To this name *anthrax*, Gr.-Smith, certainly falls as a synonym.

2. ab. *flavopicta*, Rocci, p. 16. "The ground colour of the underside of the hindwings of a yellowish colour, very little suffused with black." ab. *pallida*, Gr.-Smith, seems to be an extreme form of

this aberration. It must be observed, that Rocci used as much as possible the names proposed by Verity for the genus *Pieris*. Of course this is well done, but it is wrong to consider Verity as the author, as Rocci did. Verity has never described a *Pieris brassicae* ab. *flavopicta*. The first who did this was Rocci himself. I think it necessary to point out this mistake especially, as such kinds of errors are often made at present.

3. ab. *emigrisea*, Rocci, p. 17. "The apical blotch is completely pale greyish (as in *rapae-metra*), but the other spots (of the ♀♀) remain of a deep black." A synonym of ab. *vazquezi*, Oberthür, 1913.

4. ab. *parvomaculata*, Rocci, p. 17. "Some ♀♀ of the preceding form have the spots much reduced, not much larger than in *rapae-metra*."

Further Rocci described :

5. ab. *trimaculata*, Rocci, p. 20. "With an extra dot between the two normal ones on the forewings of the female. Rare and exclusively in the second generation."

6. ab. *nana*, Rocci, p. 20. "Very small examples of the first generation." A synonym of *minor*, Ksienschopolsky, 1911.

7. ab. *griseopicta*, Rocci, p. 20. "The markings of the forewings are strongly suffused with white; a further grade of the modification shown by *emigrisea* and which is only found in specimens of the first generation." It differs from *vazquezi*, Ob., that *all* the markings are greyish.

8. ab. *striata*, Rocci, p. 20. "The discoidal spot is united to the apical one by one or two lines. Examples of the second and third generation." ab. *biligata*, Cabeau (1925), is a synonym of this form.

9. f. *meridionalis*, Rocci, p. 18, is called the second generation of the Italian Riviera. It is very large (♀♀ 65-70mm.), has strongly developed black markings, the discoidal spot is often united to the apical blotch. Intermediate between *lepidii* and *catoleuca*.

Another form, not dealt with in the article on *Pieris brassicae* is :

ab. *separata*, Pionneau, *L'Echange, Revue Linnéenne*, January, 1928. "Differs from the type by the second spot of the forewings on the undersides, which is divided into two very distinct parts."

I must further add, that the synonymy of the ab. *fasciata*, Kiefer, as stated by Messrs. Graham-Smith, is not quite right. Ab. *maria*, Van Mellaerts (*Lambillionea*, 1926, p. 84) is the only good name for the form in which the two discal spots are united by a suffusion of black scales, while ab. *fasciata*, Kiefer (*Zeitschr. Oesterr. Ent. Ver.*, vol. III., p. 122, with figures) is the form, in which not only the two spots are united to each other, but the upper one also by two black lines to the apical blotch, as the original description of Kiefer ("connected to each other and to the hind margin of the forewings") and his figure clearly show. So ab. *maria* is not a synonym of *fasciata*, but ab. *alligata*, Cabeau (*Revue Mens. Nam.*, 1924, p. 25). The result is that we have : ab. *maria*, Van Mellaerts, with the two sub-forms abs. *supra-* and *infra-fasciata*, Gr. Smith, and ab. *fasciata*, Kiefer (=ab. *alligata*, Cabeau). It is a real pity that Van Mellaerts' name must be re-established. One should never name an aberration after a person, be it one's wife, or a kind cousin, or "the dear hand which made my net," as a German author writes. In the Supplement of Seitz Chr. Bollow has rightly treated the synonymy of these two forms.

Of course this little correction has not in the least, the intention to diminish the great value of Messrs. Graham-Smith's study. Such articles are published only too little. It would be for continental (and British) entomologists of very much value, to know the range of variation of the common British lepidoptera and the great riches of the collections in the British museums. And therefore it would be very interesting to study for instance *Pieris rapae*, L., and *P. napi*, L., *Epinephele jurtina*, L. and *E. tithonus*, L., *Satyrus semele*, L., *Pararge aegeria*, L. and *P. megera*, L., *Aphantopus hyperantus*, L., and *Coenonympha pamphilus*, L. (to take only the common Rhopalocera) as seriously as Messrs. Graham-Smith did for *Pieris brassicae*. Such work costs a great deal of time and trouble, but the value of it is far greater.

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### The Spring of 1931 in Kabylia.

By Miss L. M. FISON.

(Concluded from page 76.)

April 11th.—We went to a distant village about four hours from Michelet and in a deep ravine we saw *G. rhamni*, *A. belia*, *E. eupheno*, the "whites" and *Papilio podalirius*. *Melitaea didyma* appeared for the first time, also the "blue" *Glaucoopsyche melanops*, we saw too *Pararge aegeria*, *T. ballus* and *Rumicia phlaeas*, also some "skippers" which we failed to capture.

April 15th.—We went to a village called Ait Ailem and found the following butterflies *P. podalirius*, the three "whites," *G. melanops*, *P. aegeria*, *Pyrameis cardui*, *E. polychloros* (1), *Polygonia egea* (worn), *Anthocharis belia* (*ausonia*) and *E. eupheno*, also *Coenonympha pamphilus* and *C. arcanoides*.

April 16th.—We had a very good day near Ait Saïda and found the following insects, *P. podalirius*, *A. belia* (*ausonia*), *E. eupheno*, *Lycaenopsis* (*Cyaniris*) *argiolus*, (singly) and *Agriades thersites* (?) also *C. rubi*, *C. avis* (?), *Rumicia phlaeas*, *T. ballus*, *C. croceus* (*edusa*), *P. cardui*, *C. pamphilus* and *E. polychloros*.

April 17th.—On a lavender-covered slope near Michelet we found *Glaucoopsyche melanops* abundant and fresh, flying with *Rumicia phlaeas*, and the two "Whites," we also took *P. podalirius*, *E. eupheno*, and *T. ballus*.

April 18th.—We saw the same species near the villages of Tassaft Ongoumoun, together with *G. cleopatra*, *C. avis*, *C. rubi*, and *Pararge megera*.

April 28th.—We took the early bus and spent a day in the low-lying Oued Aissi and found *Anthocharis belemia* flying fine and fresh over fields of fresh corn, with *P. rapae*, and I rather think *P. manni*. We also took *C. pamphilus*, *R. phlaeas*, *P. aegeria*, *P. cardui* and *E. eupheno* (going over.)

April 29th.—Near Agoni-Taslent we found *Melitaea didyma* fine and fresh, also *R. phlaeas*, *P. sertorius* (*sao*), *P. icarus* ♂ and ♀, *C. arcanoides*, *P. cardui*, *E. eupheno*, *P. podalirius*, *T. ballus* (going over), and *G. melanops*.

May 10th.—Near Ait Moraou we took *C. rubi* and *C. avis*, *C. arcanoides*, *G. melanops*, *P. icarus*, *P. megera* and *P. aegeria*, *C. pamphilus*,